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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/007,955	12/07/2001	Abbas Arian	1391-27000	3449

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CONLEY ROSE, P.C.  
P. O. BOX 3267  
HOUSTON, TX 77253-3267

EXAMINER

HSIEH, SHIH YUNG

ART UNIT

PAPER NUMBER

2837

DATE MAILED: 12/20/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/007,955

Applicant(s)

ARIAN ET AL.

Examiner

Shih-yung Hsieh

Art Unit

2837

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 26 is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☒ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.                      6) ☐ Other: .

1. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

It does not identify the mailing or post office address of each inventor. A mailing or post office address is an address at which an inventor customarily receives his or her mail and may be either a home or business address. The mailing or post office address should include the ZIP Code designation. The mailing or post office address may be provided in an application data sheet or a supplemental oath or declaration. See 37 CFR 1.63(c) and 37 CFR 1.76.

It is not dated when signed by the inventors.

2. Claim 3 is objected to because of the following informalities: the dependency of claim 3 on claim 3 is not correct. Appropriate correction is required.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3, 8-9, 15-17, 23, 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Hoyle et al. (5,036,945).

Regarding claim 1, Hoyle et al disclose an apparatus comprising: a transmitter (10a); a receiver (10c); and an acoustic attenuation section (10b) disposed between

said transmitter and said receiver and comprising one or more springs (R1-4) connected in series and disposed in a housing (D).

Regarding claims 2-3, 17, Hoyle et al. disclose a plurality of nodal mass (A1) disposed along the attenuation section.

Regarding claims 8-9, 23, Hoyle et al. disclose the outer surface of the spring is separated from the inner surface of the adjoining housing by at least 0.010inches and less than 0.100 inches (Fig. 4A1).

Regarding claim 15, Hoyle et al. disclose said attenuation section being filled with fluid (col. 8, lines 44-46).

Regarding claim 16, Hoyle et al. disclose a plurality of springs (R1-4) connected in series to form an elongated body; and a plurality of housings (D) corresponding in number to and disposed about said springs (Figs. 4 and 4A1).

Regarding claim 25, Hoyle et al. disclose a method comprising the steps of transmitting acoustic energy from the transmitter section into the attenuation section; transmitting acoustic energy through the attenuation section to produce an attenuated energy, wherein the attenuation section comprises a one or more springs connected in series, a corresponding number of housing s disposed about the springs, and a corresponding number of nodal masses; and receiving the attenuated acoustic energy at the receiver.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 4, 10, 13, 20-21, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoyle et al. in view of Shah et al. (6,137,747).

Regarding claims 4, 10, 13, 20-21, and 24, Hoyle et al. disclose the claimed invention except that the spring, the housing, between the rod member and the nodal mass are coated with a layer of resilient material.

Shah et al. teach coating a support sleeve surface of a acoustic transmitter with a layer of resilient material (col. 5, lines 51-55) for preserving free axial movement. It would have been obvious to one having ordinary skill in the art to modify Hoyle et al's apparatus as taught by shah et al. to include coating the spring, the housing, between the rod member and the nodal mass with a layer of resilient material for the purpose of preserving free axial movement.

7. Claims 5-6, 14, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoyle et al. in view of Beresford et al. (6,145,615).

Regarding claims 5-6, 14, and 22, Hoyle et al. disclose the claimed invention except that disclosing the selection of certain spring stiffness to withstand axial load of 100,000 pounds.

Beresford et al. teach a mechanical filter for damping longitudinal wave at a predetermined frequency for a drill string with design information (col. 6, lines 1-3, and

lines 10-55). It would have been obvious to one having ordinary skill in the art to modify Hoyle et al's apparatus as taught by Beresford et al. to include certain spring stiffness for the purpose of withstanding certain axial load.

Further, it would have been obvious to one having ordinary skill in the art at the time the invention was made to select such spring stiffness value, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ215 (CCPA 1980).

8. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hoyle et al. in view of Wignall et al. (4,872,526).

Hoyle et al. disclose the claimed invention except that the coils of said springs have radial holes extending therethrough.

Wignall et al. teach coils of said springs (10b1-3 in Fig. 9) have radial holes (D) extending therethrough for low acoustic impedance. It would have been obvious to one having ordinary skill in the art to modify Hoyle et al's apparatus as taught by Wignall et al. to include the coils of said springs have radial holes extending therethrough for the purpose of providing low impedance.

9. Claims 11-12, and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoyle et al.

Hoyle et al. disclose the claimed invention as shown in Fig. 4A1 except that the springs are connected by a rod member. Hoyle et al, however, also teach a rod member

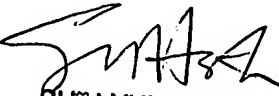
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(c8 in Fig. 5A) for support. It would have been obvious to one having ordinary skill in the art to modify Hoyle et al's apparatus as taught by Hoyle et al. to include a rod member for the purpose of providing support.

10. Claim 26 is allowed.

11. Claim 26 is allowable over the prior art for at least the reason that the prior art fails to reasonably teach or suggest in claim 26 that a method step of receiving acoustic energy from the first spring with a connecting rod wherein the connecting rod possesses a nodal mass that prevents compression of the spring beyond a predetermined limit as set forth in the claimed combination.

12. Any inquiry concerning this communication should be directed to (David) S.Y. Hsieh at telephone number (703) 308-1031.

  
SHIH-YUNG HSIEH  
PRIMARY EXAMINER